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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,826	10/20/2004	Hiroshi Uehara	018765-184	8838

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EXAMINER

HUANG, MEI QI

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/511,826

Applicant(s)

UEHARA ET AL

Examiner

Mei Q. Huang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/20/04, 03/31/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The preliminary amendment of October 20, 2004 has been entered in full.

Claims 1-10 are canceled. Claims 11-21 are currently pending and under examination.

Specification

2. The disclosure is objected to because of the following informalities: The title "...and Molded Object Obtrained ..." seems to be a typo and should be changed to "...Molded Object Obtained ...". Appropriate correction is required.

Claim Objections

3. Claim 16 is objected to because of the following informalities:

The selective formats of various groups are improper in that it is not clear whether the individual members in the group are selected in alternatives only or in both alternatives and combinations. In general, when the members in a group are individually chosen as alternatives, the format, "selected from A, B, ..., or X" or "selected from the group consisting of A, B, ..., and X", should be used; and when the members in a group are chosen both in alternatives and combinations, the format "selected from the group consisting of A, B, ..., X, and mixtures thereof" should be used. See MPEP 2173.05 (h). Applicants are requested to amend the selective formats of the instant claims according to the above guidance.

4. Claim 18 is objected to because of the following informalities: This claim is cited incorrectly to depend on claim 20. Appropriate correction is required. For the purpose

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of examination, the examiner herein treats this claim as a dependent claim depending on claim 16.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Masato (JP 10-237237, translation).

The prior art to Masato provides a flame-retardant resin composition suitable for a coating layer of an electric wire or cable wherein the component (A) is synthesized from ethylene and a C₂₋₁₀ α -olefin (Abstract). A comparison of the composition components between the prior art and the present application is shown in the following table.

	The present application	JP 10-237237 Abstract	JP 10-237237 Example 11 (page 5)
Ethylene copolymer A1	A1 20-64.9 wt%	30-90 wt%	47 wt%
Other copolymer A2	A 21/A2 20/80 – 100/0		
Metal hydroxide	35-70 wt%	33-67 wt%	47 wt%
Grafted polyolefin	0.1-30 wt%	1-20 wt%	5.26 wt%

As one can see, the prior art ranges shown in Example 11, page 5, Table 1, are well within the instantly claimed ones.

Masato does not specify the density, melt flow rate and index (M_w/M_n) of molecular-weight distribution for the polyethylene used in graft modification. However, given the substantially similarity of the graft-modified ethylene polymer between the prior art and the present application, it is the examiner's position to believe that the prior art graft-modified ethylene polymer must inherently possess the same physical properties, such as density, melt flow rate and index molecular-weight distribution. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to the applicant to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596, (CCPA 1980).

As to claim 12, the component (A) is synthesized from ethylene and a C_{2-10} α olefin by using a single site catalyst and has an M_w/M_n of 2 or less, a density of 0.91 g/cm³ (i.e. 910 kg/m³, and an MI of 3 g/10 min or lower (Abstract).

As to claims 13-15, Masato's disclosure of the applicability of the invention, such as insulating layer and sheath for electrical wire or cable is shown on page 2, [0013].

In sum, all the limitations of claims 11-15 are fully met by Masato's disclosure.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi et al. (US 6,232,377) in view of Keogh (US 4,913,965).

The prior art to Hayashi et al. discloses a flame retardant composition. A comparison of the composition components between the prior art and the present application is shown in the following table.

	The present application	US 6,232,377 Abstract
aa-1 or aa-2	100 pts wt	100 pts wt
BB	50-250 pts wt	5-500 pts wt
E	0.1-40 pts wt	1-24 pts wt
F	0.1-40 pts wt	

The difference between the prior art and the present application is that Hayashi et al. do not incorporate a polyhydric alcohol compound as required by the instant claim 16.

However, Hayashi et al. do disclose that the invented composition can include conventional additives including reinforcing fillers in an amount of 0.1-5 parts by weight

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for each 100 parts by weight of the resin wherein the fillers are generally added in larger amounts up to 200 parts by weight or more (column 7, lines 18-35). Hayashi et al. do not specify examples of such reinforcing fillers.

The prior art to Keogh relates to flame retardant compositions comprising ethylene copolymer and magnesium hydroxide (Abstract). The teaching of reinforcing additives including polymerizable unsaturated organic compounds, such as pentaerythritol and dipentaerythritol is shown at column 3, lines 17-18 and column 4, lines 3-9). The benefit of incorporating such reinforcing fillers, e.g. increased strength of the composition, can be seen at column 3, lines 32-35.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate reinforcing fillers, such as pentaerythritol and dipentaerythritol, as taught by Keogh in a similar flame retardant composition, in the Hayashi et als' flame retardant composition formulation based on Keogh's teaching of using such reinforcing fillers to improve the composition's physical properties, such as strength, motivated by a reasonable expectation of success.

As to claim 17, Hayashi et als' component (A) includes at least one ethylene copolymer (Abstract).

As to claim 18, see the discussion above on the reinforcing fillers.

In regard to claim 19-21, Hayashi et als' disclosure about the invention applicability can be seen at column 8, lines 57-64, which includes insulation and jacketing for electric wire or cable.

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Conclusion

The prior art made of record but not relied upon is considered pertinent to applicant's disclosure. The following references have been cited to show the state of the art with respect to the study of flame retardant composition made from thermoplastic/thermosetting resin.

US 4,221,875 to Yukuta et al.

US 4,396,730 to Imahashi

US 2001/0007888 to Asano


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mei Q. Huang whose telephone number is (571) 272-3549. The examiner can normally be reached on 8am - 4pm, Mon. - Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mei Q. Huang
Examiner

July 8, 2005



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